

## MINI HEALTH TECHNOLOGY ASSESSMENT

**(Note: A mini HTA report consists of two parts. The first is completed by the applicant at the time the new technology is requested. The second consists of a commentary and possibly additional evidence provided by TAU)**

**Report number: 69  
August 29, 2012**

### **Hyaluronic Acid Fat Graft Myringoplasty or Epidisk Tympanoplasty (ET)**

#### **PART I: Request for HTA (Completed by applicant)**

<b>Requestor Name:</b>	Dr. Anthony Zeitouni		
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<b>Department Head:</b>	Dr. Saul Frenkiel		
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#### **Technology (Name, Description, Purpose)**

**Name:** Hyaluronic Acid Fat Graft Myringoplasty or "epidisk" tympanoplasty.

**Description:** This is a new procedure that has been in the peer reviewed literature and was featured as a breakthrough in the popular media. It permits doing tympanoplasties (closing perforations for the ear drum) in the clinic rather than taking patients to the operating room.

**Purpose:** It avoids an admission, general anesthesia and the use of the OR and recovery rooms.

#### **Has it been used at the MUHC? What is the alternative?**

I was given some epidisks by the company and it has worked as per the peer reviewed publications on the technique. The alternative is the tympanoplasty under general anesthesia as has been practiced at the RVH since the 1950's.

#### **Health benefits**

It avoids general anesthesia and an overnight stay on 9W. The literature shows the same success rate with this procedure as with conventional tympanoplasty.

### **Risks/complications**

Risks are the same or lower than with conventional tympanoplasty which is considered a very safe procedure. Complications include infections leading to ear discharge and possible transient dizziness.

### **Unit costs (Direct costs of items requested)**

Epidisks come in box of two. Cost is \$ 131.

### **Usage (Quantity of drugs/expendables or number of procedures per year)**

We expect to treat 10 patients. ordinarily a box will treat one patient.

### **Impact on hospital services (Bed usage,OPD, Etc)**

Avoid inpatient admission, OR and general anesthesia. This is done in clinic. Procedure takes 20 minutes. Instrumentation is available. We have microscopes in the clinic.

### **Resource Person/Expert at MUHC**

Dr Zeitouni and Jeanne Cote, RN.

## **PART II: Comments of Technology Assessment Unit**

**Completed by:** Maurice McGregor and Xuanqian Xie

### **Literature search**

A systematic literature search was carried out using Pubmed and Embase to identify research on Hyaluronic Acid Fat Graft Myringoplasty, using the words “Hyaluronic Acid Fat Graft Myringoplasty” or “HAFGM” or "epidisk". After reviewing all abstracts and selected full-texts, we identified 3 studies<sup>1-3</sup>.

### **Health benefits and risks**

This procedure was first carried out by Saliba et al. at Hôtel Dieu Hospital (CHUM) in Montreal in 2008. Up to the present, a total of three case series have been reported, all by the same group<sup>1-3</sup>. In the most recent publication the authors compare (non-randomized) the results in adult patients following 131 Epidisk Tympanoplasty (ET) procedures with the results following traditional surgical closure in 115 patients<sup>3</sup>. The rates of successful closure were identical (92.7% vs. 92.4%), as were the results of hearing tests. ET procedures were carried out in the outpatient clinic with an average procedure time of 16 minutes while surgical procedures were carried out in the operating room with an average procedure time of 70 minutes. There were no complications associated with ET.

Following traditional surgery closure rates fall off with time, in one series falling from 94.9% to 84.9% , to 70.1% at 6, 12, and 24 months after surgery.

### **Budget and service impact**

Introduction of this procedure at the MUHC would clearly be cost saving. The costs analysis was conducted from the perspective of the MUHC. Roughly, the cost per procedure for ET would be \$131 (Equipment cost only. Outpatient costs not included).

In comparison, the cost per surgical procedure would be: The cost of 1 day hospital admission (\$332/day for nursing) + 1 hour operating room (\$869/hour) + 2 hours recovery room (\$211/hour) = \$1,624 . Thus the difference in cost per procedure would be \$1,493, and the budget impact of 10 procedures per year would be \$14,930.

The cost saving resulting from use of ET would be reflected, not as a reduction in budget impact, but as increased efficiency.

### Conclusion

- This is a promising procedure, apparently equivalent to existing surgical procedures in safety and efficacy.
- As a result of the ability to carry it out in the outpatient department it would be cost saving.
- Its use consists of case series, all deriving from one centre. Until it is more widely accepted it should be looked on as an innovative but not yet accepted procedure.

### Recommendation

- ET is an innovative procedure. The evidence of efficacy and safety is sufficient to support its approval for use at the MUHC.
- However, until it becomes more widely accepted a registry of all procedures, including complications and outcomes, with follow-up for at least two years should be maintained. This registry should be reviewed annually by the surgical division.

### **References:**

- (1) Saliba I. Hyaluronic acid fat graft myringoplasty: how we do it. *Clin Otolaryngol* 2008; 33(6):610-614.
- (2) Saliba I, Froehlich P. Hyaluronic acid fat graft myringoplasty: an office-based technique adapted to children. *Arch Otolaryngol Head Neck Surg* 2011; 137(12):1203-1209.
- (3) Saliba I, Woods O. Hyaluronic acid fat graft myringoplasty: a minimally invasive technique. *Laryngoscope* 2011; 121(2):375-380.

### Suggested citation

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